USDA

United States
Department of
Agriculture
Forest Service
April 2017

Terrestrial Wildlife Biological Assessment

South Fork Tributary Habitat Enhancement Project

Salmon/Scott River Ranger District, Klamath National Forest,
Siskiyou County, California

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Table of Contents

List of Tables

List of Figures

BIOLOGICAL ASSESSMENT FOR THREATENED, ENDANGERED, AND PROPOSED WILDLIFE SPECIES

Introduction

Species list addressed: U. S. Fish and Wildlife Service (USFWS) Threatened, Endangered, and Proposed animal species (USDI FWS 2017).

Project area reviewed for presence of populations, habitat, and range: Yes

Methodology

A review was conducted to determine which Threatened, Endangered, or Proposed (TEP) species are present, and for which species a field survey may be necessary. Surveys were not triggered for any species listed as TEP. Field surveys have not been conducted for the specific project area.

The following list of TEP species was provided by The United States Department of Interior (USDI) Fish and Wildlife Service (FWS) Information for Planning and Conservation (IPaC) web service on February 3, 2017 and updated February 26, 2017 (USDI FWS 2016). This BA addresses the following species:

Amphibians
Oregon spotted frog (*Rana pretiosa*)

Birds
Northern Spotted Owl (*Strix occidentalis caurina*)
Yellow-billed Cuckoo (*Coccyzus ameicanus*)

Mammals
gray wolf (*Canis lupus*)
North American wolverine (*Gulo gulo luscus*)

Oregon spotted frog and Yellow-billed Cuckoo:
The project area is outside of the known range of the Oregon spotted frog and the Yellow-billed Cuckoo and no records exist in the project area. These species will not be discussed further in this document as this project will not have any effect to the species, critical habitat, or suitable habitat.

Analysis Indicators

The analysis indicators for measuring the effects of the South Fork Salmon River Tributary Habitat Enhancement Project are based on law, policy, and direction. Section 7 of the Federal Endangered Species Act (ESA) of 1973, as amended, and Forest Service Policy (FSM 2670) direct Federal agencies to ensure that any action authorized, funded, or permitted by such agencies is not likely to jeopardize the continued existence of species listed or proposed to be listed as Endangered or Threatened by the U.S. Fish and Wildlife Service (USDA FWS 2005).

This project will be analyzed based on the following analysis indicator:

- The likelihood that project implementation would lead to mortality, harm, failed breeding attempts, or displacement for wildlife species.

Spatial and Temporal Context

The project area is the analysis area. This boundary is appropriate for assessing the project impacts as they might be experienced by existing TEP species within the project area.

The short-term temporal bound is the time it takes to complete project implementation and for a layer of mulch and debris to recover bare ground, 3 to 5 years.

The long-term temporal bound for the project is 10 years because it is expected that any potential reductions to vegetation from project activities will recover within 10 years, if not more quickly. This timeframe assumes that reduced shade and canopy cover is primarily due to the disturbance to Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum)*, upland shrubs, and the removal of white alder (*Alnus rhombifolia*). It is expected that shrub species will recover and provide vegetative habitat within a few years of disturbance, no more than 10 years.

Affected Environment

A review of the proposed project was conducted to assess potential impacts to the species considered in this document. An evaluation of species-habitat associations, presence of suitable or potential habitat, and a review of the literature on the effects to the species of concern were used to determine potential effects.

Field surveys conducted during project planning performed by the Project Lead, Melissa Van Scoyoc, on 6/20/2016, 8/17/2016, 8/18/2016 were used to identify areas of potential habitat for TEP species.

Birds

Northern Spotted Owl – Northern spotted owl was listed as Threatened June 26, 1990 (USDI FWS 1990). Critical Habitat was designated on January 15, 1992 and most recently revised on May 11, 2016 (USDI FWS 1990, 1992). The proposed action falls within designated Critical Habitat for northern spotted owl.

This species occurs along the Pacific coast from southwestern British Columbia to central California in forested habitats. Typically, northern spotted owl is strongly associated with late-successional/old-growth forests. In northern California it also occurs in some types of relatively young forests, especially where those forests are structurally similar to late-successional/old-growth forest stands (Solis and Gutierrez 1990). Interference competition resulting from the range expansion of Barred Owl (*Strix varia*) into the Pacific Northwest where northern spotted owl is endemic has forced the latter into lower quality habitat. However, research suggests extinction rates are higher and nest colonization rates lower in fragmented forests and that older forest at the core of northern spotted owl territories is necessary for suitable nest sites (Dugger et al. 2005, Dugger et al. 2011, Swindle et al. 1999).

Spotted owls generally select nesting and roosting habitat in areas that exhibit dense canopy closure, complex forest structure, decadence (snags, downed logs and large woody debris, broken top trees), and open understory suitable to sub-canopy flight (Solis and Gutierrez 1990, Hunter and Gutierrez 1995). In the region of northwestern California where the action area occurs, dusky-footed woodrats (*Neotoma fuscipes*) are the primary prey species of northern spotted owls (Zabel et al. 1993). Current data suggest that northern spotted owl foraging habitat in the project region generally tends to follow the distribution of habitats with abundant dusky-footed woodrat populations (Gutierrez et al. 1998, Ward and Gutierrez 1998). Primarily, these

are areas with conifers that exhibit comparatively smaller basal areas than those of nesting and roosting habitats (Solis and Gutierrez 1990) and generally occur at ecotones between late and early seral stage mixed conifer forests (Ward and Gutierrez 1998, Zabel et al. 1993).

Spotted owls are monogamous and exhibit prolonged parental care (Gutierrez et al. 1995). Long-lived and territorial, pairs are typically spaced 1-2 miles apart in uniform habitat depending on local topographic conditions and demonstrate breeding site fidelity. The breeding season generally begins with pair bond formation from February to early March and ends with fledging of young through August with variation among pairs dependent upon nest initiation date (Gutierrez et al. 1995).

The decline of the northern spotted owl has been attributed to loss of nesting habitat due to commercial timber harvest and more recently to competition from the barred owl, which is expanding its range in the western United States (Dugger et al. 2011).

A single northern spotted owl Activity Center (KL4018) is known to occur within the analysis area, defined as all suitable northern spotted owl habitat occurring within 1.3 miles of the action area (Table 1, Figure 1). Following are tables depicting a breakdown of suitable northern spotted owl habitat within both the habitat core and home range of the KL4018 Activity Center (Table 1) and a summary of all suitable northern spotted owl habitat within the analysis area (Table 2).

Table 1. Summary of Northern Spotted Owl Habitat in Core & Home Range of Activity Center KL4018.

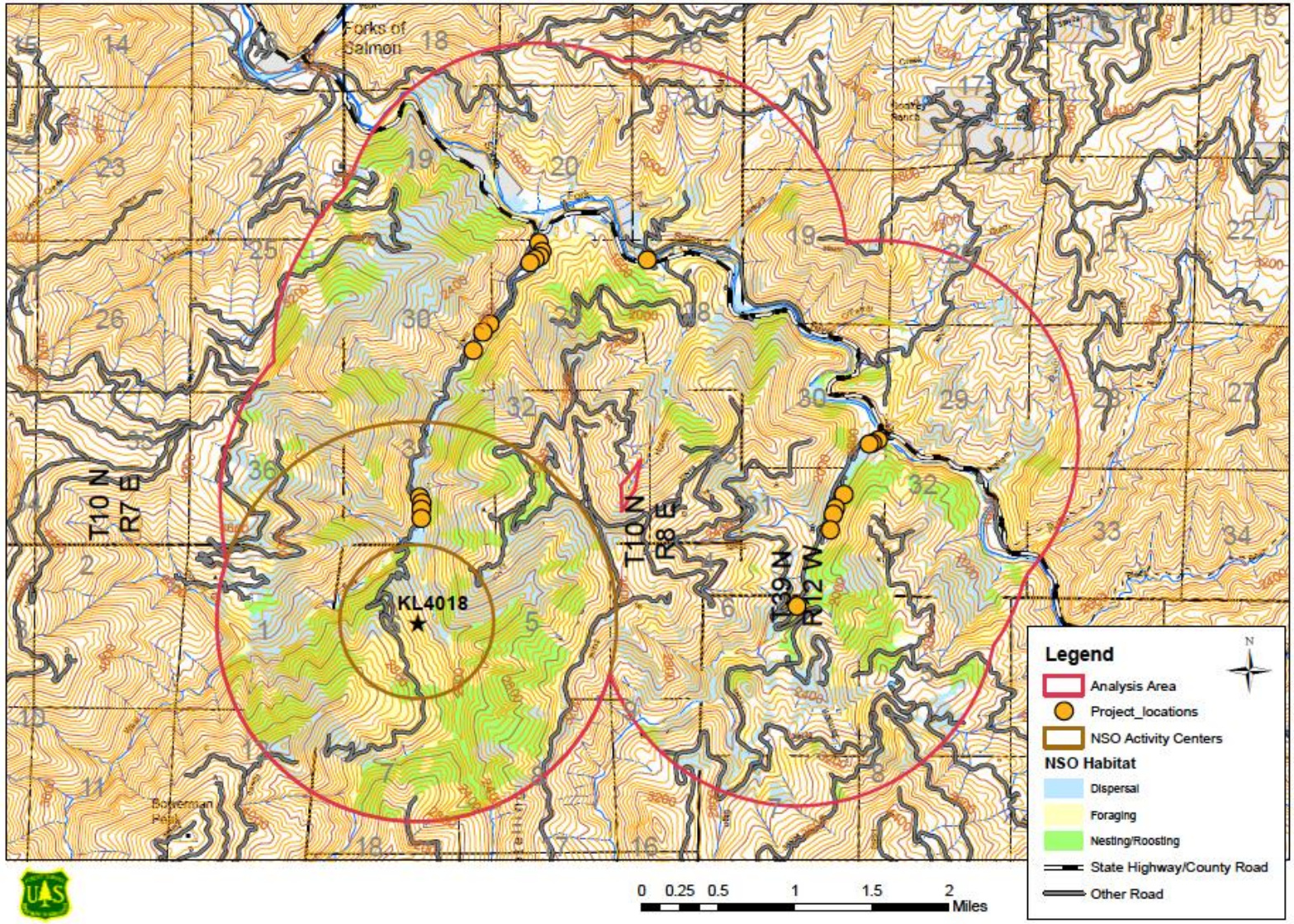
Habitat	NSO Core	NSO Home Range	Total
Dispersal	119.8	905.1	1024.9
Foraging	216.7	697.6	914.3
Nesting/Roosting	139.6	1017.6	1157.1
Total	**476.1**	**2620.2**	**3096.3**

*Survey Summary: Reproductive 1987, Non-reproductive Pair from 1990-1992, Single 1997, Last Surveyed 1997

Table 2. Summary of Northern Spotted Owl Habitat in the Analysis Area.

Habitat	Acres
Dispersal	2949.4
Foraging	1964.3
Nesting/Roosting	2084.5
Non-Habitat	6580.6
Total	**13578.8**

Figure 1. Northern Spotted Owl Habitat Analysis Map for the South Fork Tributary Habitat Enhancement Project.



Mammals

Gray wolf – Gray wolf was listed as Endangered on March 9, 1978 (USDI FWS 1978). Critical Habitat has not been designated.

Originally listed as a subspecies or as regional populations of subspecies in the contiguous U.S. and Mexico, the species was reclassified in 1978 as an Endangered population at the species level (*C. lupus*) throughout the contiguous U.S. and Mexico, except for the Minnesota population, which was classified as Threatened. Populations in Idaho and Montana were delisted due to recovery in 2011.

Gray wolf once ranged throughout the northern hemisphere until humans began to compete with the species for food and habit. A habitat generalist, the species only requires ungulate prey and relative safety from human-caused mortality and, due to its adaptability, can occur in a wide range of habitats including temperate forest, mountains, tundra taiga and grasslands.

A keystone predator, gray wolf is an integral part of the ecosystems it inhabits. Prey species primarily include both wild and domestic ungulates but the species will also take smaller prey such as beaver, other small mammals, birds and fish and will readily scavenge.

Wolves are territorial, defending territories in packs. Territory size is a function of prey density and can range from 25-1,500 square miles. Both male and female wolves disperse at equal rate and equal distances, sometime >600 miles.

Gray wolf typically first breeds as a yearling and then once per year from January-March (typically in February). Pups are born 63 days later in litters of 1-10 (normally around 5) and stay with the pack until >1 year of age.

Current threats to gray wolf include continued conflict with humans, primarily resulting from livestock losses but also from hunting and trapping and habitat loss, degradation and fragmentation from human encroachment.

North American wolverine – North American wolverine was proposed for listing as Threatened on February 4, 2013 (USDI FWS 2013).

North American wolverine is a scarce resident of the North Coast mountains and Sierra Nevada. Sightings range from Del Norte and Trinity Counties east through Siskiyou and Shasta Counties, and south through Tulare County. A few possible sightings occur in the north coastal region as far south as Lake County. Habitat distribution in California is poorly known for the North Coast and northern Sierra Nevada. In north coastal areas, it has been observed in Douglas-fir and mixed conifer habitats, and probably uses red fir, lodgepole, wet meadow and montane riparian habitats. Most sightings in this region range from 1,600-4,800 feet in elevation. In the northern Sierra Nevada, the species has been found in mixed conifer, red fir and lodgepole, subalpine conifer, alpine dwarf-shrub, barren, and probably wet meadows, montane chaparral and Jeffrey pine. Elevations in the southern Sierra Nevada are mostly from 6,400-10,800 feet. Wolverine may travel extensively. There are indications that the species may be increasing in California (CDFG 1980, Grinnell et al. 1937, Ingles 1965, Johnson 1977, Schempf and White 1977, Yocom 1973, 1974). However, it still has low population densities, even in the best parts of its range, and was likely never common in California (Zeiner et al. 1988-1990).

Areas with low human disturbance are preferred by North American wolverine and it uses caves, hollows in cliffs, logs, rock outcrops and burrows for cover, generally in denser forest stages

(Zeiner et al. 1988-1990). It dens in caves, cliffs, hollow logs, cavities in the ground and under rocks. It may also dig dens in snow or use old beaver lodges (Thomas 1979).

This species is believed to be territorial and scent marks its home range. Individuals of the same sex and yearlings may be driven out (Krott 1982) but there is much overlap between home ranges. Spacing is maintained in time but not space (Hornocker and Hash 1981). Therefore territory defense is infrequent. Several females may have home ranges within the range of a single male (Zeiner et al. 1988-1990).

North American wolverine is thought to be polygamous and mating occurs from May to July. Active gestation is 30-40 days. However, as a result of delayed implantation, full gestation may last 215-272 days. The young are born from January through April. One litter is produced per year, averaging 3.5 (usually 2-4, ranging from 1-5). Young are weaned in 7-9 weeks and become sexually mature in their second or third year. Not all females produce each year (Hornocker and Hash 1981, Nowak and Paradiso 1983, Rausch and Pearson 1972, Wright and Rausch 1955).

Primary food items are small mammals and carrion (Grinnell et al. 1973, Honrocker and Hash 1981, Ingles, 1965, Krott 1982). Prey species include marmots, ground squirrels, gophers and mice, deer carcasses, other vertebrates, berries and insects. Foraging occurs in open to sparse tree habitat on the ground, in trees, burrows, among rocks, in or under snow and sometimes in shallow water. The species may be capable of detecting prey under deep snow and it caches its food (Zeiner et al. 1988-1990).

Environmental Consequences

Alternative 1 – No Action Alternative

Direct and Indirect Effects

If the no action alternative is selected, there will be no soil or vegetation disturbance within the project area and the habitat for TEP species will remain the same as the current condition resulting in no direct or indirect effects.

Cumulative Effects

There are no direct or indirect effects as a result the No Action Alternative so there are no cumulative effects.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Prior to working at each site an individual will precede the equipment on foot to displace fish and wildlife and prevent them from being injured. Any fish or wildlife in the work area shall be flushed in a safe direction away from the project site. Additionally, the following Project Design Features (PDF) are part of the project plan and will be used to mitigate impacts to special status wildlife species:

> **WL-1** - To avoid disturbance to potentially breeding northern spotted owl, in or near the project area, project activities that involve louder than ambient noise levels will be prohibited from February 1st - July 9th each year. This is in conformance with CDFW's

restriction for northern spotted owl, other raptors, and migratory birds. This seasonal restriction can be lifted if protocol-level surveys conducted during the year of the action do not detect the presence of nesting owls or identified nests have been determined to have failed or fledged young.

WL-2 – Prior to construction, access routes and worksites will be surveyed by a biologist using the intuitive controlled method, to look for blue-gray taildropper, western pond turtle (individuals, nests, and overwintering burrows), salamander, foothill yellow-legged frogs (all life phases), and tailed frogs (all life phases) which are considered in a separate document (Draft Wildlife Resource Report, Stauffer 2017). If such species are observed they will be moved from the exclusion zone downstream or upstream of the work site, to a safe location, prior to construction. This is in conformance with CDFW's recommendation for these species.

Within the short-term timeframe, the proposed action has the potential to disturb soil and vegetation from construction activities (equipment access, storage areas and placement of large woody debris), such areas may have minimal soil compaction and erosion, however the incremental area of ground disturbance for the project is minimal: site features will be placed within 0.30 acres of annual floodplain/riparian habitat, which is also disturbed annually by high flows. Temporary access routes will disturb approximately 0.35 acres within riparian areas and 0.70 acres in upland areas. These short-term impacts will be reduced by appropriate work windows, PDFs, BMPs, and post treatment restoration of temporary access routes.

Within the long-term, the proposed action has the potential to alter riparian and upland vegetation habitat. The potential long-term impacts to vegetation can be expected to last no more than 10 years, as it recovers from disturbance. Twenty small (<12in DBH) trees will potentially be removed for temporary access, consisting of 15 white alders in riparian areas, and three small oak trees and two small Douglas fir trees in upland areas. Project disturbance (construction and temporary access) will result in minimal loss of shade provided by canopy cover and disturbance to the habitats preferred by special status species.

However, the Proposed Action aims to restore the stream channels of Knownothing and Methodist Creeks to a more natural condition, which will also enhance riparian vegetation thereby increasing preferred habitat for aquatic and riparian associated species. Enhancing these streams will meet Forest Plan Aquatic Conservation Strategy Objectives by aiding the recovery of fish habitat, riparian habitat, and water quality (6-46).

Northern Spotted Owl

Direct effects considered include mortality, harm, failed breeding attempts and displacement.

The USDI FWS published a guidance document in 2006 (USDI FWS 2006) to address the potential effects of disturbance on northern spotted owl and marbled murrelet (*Brachyramphus marmoratus*) to promote consistent and reasonable determinations of effects for activities that occur in or near owl or murrelet suitable habitat and result in elevated human-generated sounds or human activities in close proximity to nest trees.

Through this guidance, the USFWS describes behaviors of these two forest species that reasonably characterize when disturbance effects rise to the level of take (i.e., harassment), as defined in the implementing regulations of the ESA, as amended. These behaviors include:

- Flushing an adult or juvenile from an active nest during the reproductive period;
- Precluding adult feeding of the young for a daily feeding cycle and;
- Precluding feeding attempts of the young during part of multiple feeding cycles.

This guidance attempts to provide objective metrics based on a substantial review of the existing literature, as it pertains to northern spotted owl and marbled murrelet, and appropriate surrogate species. The recommended methodology relies on a comparison of sound levels generated by the proposed action to pre-project ambient conditions. Disturbance may reach the level of take when at least one of the following conditions is met:

- Project-generated sound exceeds ambient nesting conditions by 20-25 decibels (dB).
- Project-generated sound, when added to existing ambient conditions, exceeds 90 dB.
- Human activities occur within a visual line-of-site distance of 130 feet or less from a nest.

The proposed action will not remove any suitable northern spotted owl habitat and is not expected to pose a direct danger of mortality, harm, failed breeding attempts or displacement of northern spotted owl individuals.

In the context of ESA determinations, 'effect' refers to behavioral or physiological responses that are outside the typical range of species responses under normal conditions. Northern spotted owl young in Siskiyou County typically fledge by July 9 and are expected to be mobile and responsive to environmental stimuli. Behaviors of young beyond this date are within the typical range of responses of this species to environmental disturbances such as storms and the proximity of predators or other animals. As a result, July 9 is generally accepted among USFWS, USFS, and research biologists as a reasonable threshold for a "no effect" determination as it pertains to disturbance of breeding owls. To avoid direct effects associated with noise/human disturbance (as defined above), a Limited Operating Period (LOP) is incorporated into the project design to prevent these activities between February 1 and July 9 (WL-1). Therefore, the proposed action will have no direct effects on northern spotted owl.

The intensity of indirect effects on northern spotted owl, suitable northern spotted owl habitat, and northern spotted owl Critical Habitat is classified at three levels derived from the USFWS owl baseline tracking system:

- Degraded – a categorical term referring usually to a reduction in some vegetative components such as smaller understory trees, but still functioning at current habitat levels. For example, habitat is impacted by a thinning prescription in foraging habitat that does not reduce the canopy closure below 40%.
- Downgraded – refers to a temporary reduction (e.g., 30 years) in habitat classification. For example, nesting/roosting habitat may be downgraded by thinning and removing a layered canopy, yet the stand still maintains a 40% canopy closure that could be used for foraging.
- Removed – habitat is modified to no longer provide any direct habitat use for northern spotted owl. Some of these habitats may still provide indirect utility to

the species. For example, "removed" forest habitats may function as woodrat breeding habitat and increase foraging opportunities for owls in neighboring forested stands.

No indirect effects to northern spotted owl are expected to result from implementation of the proposed action. It is anticipated that only a very small number of trees will be removed, likely to include the following:

Table 3: Trees Likely to be Removed by the Proposed Action.

Number	Species	Habitat	DBH
15	white alder	riparian	<12"
3	oak	upland	<12"
2	Douglas-fir	upland	<12"

Therefore, no measurable change to canopy closure will result nor will forest fragmentation occur. No suitable northern spotted owl habitat will be degraded, downgraded, or removed. Further, no adverse impacts to the existing habitat for northern spotted owl prey species, such as woodrats, are expected. Therefore, the proposed action will not result in any short- or long-term indirect effects to northern spotted owl.

The proposed project with have *no effect* on northern spotted owl.

Gray Wolf

Gray wolf is not known from the project area. However, it has a large home range and range expansion is documented and could result in wolves re-inhabiting the area at some point. The California Department of Fish and Wildlife (CDFW) has collected evidence (an anecdotal observation in early 2015, a remote trail camera image in May 2015, a large canid tracks observed by CDFW biologists in June 2015 and a remote trail camera image in July 2015), that suggests at least one individual has traveled into southeastern Siskiyou County (CDFW 2015).

However, due to the small project footprint relative to the large home range size of gray wolf, the proposed project will not alter enough habitat to have any impact on the species. Further, gray wolf is highly mobile and capable of avoiding project-related disturbance.

Therefore, the proposed action will have *no effect* on gray wolf.

North American Wolverine

Habitat for North American wolverine is limited and low quality within the project area thus not likely used for reproduction, although possibly for foraging and individuals may traverse the area along the riparian corridor. There are no records of North American wolverine from within or adjacent to the project area. However, this species has a relatively large home range and is known to avoid areas where human disturbance is a factor. All proposed construction activities within the project area will occur in only very small portions of wolverine habitat and will be conspicuous enough as to likely be avoided by the species. Further, the project will not modify suitable wolverine habitat.

The proposed action will have *no effect* on North American wolverine.

Summary of Effects

A review of the South Fork Tributary Habitat Enhancement Project has resulted in the determinations that the actions in Alternative 2, the Proposed Action, will have *no effect* on TEP species, either because the project is outside of their known range, suitable habitat is lacking or the proposed project will not result in adverse impacts to the species or their suitable habitat. Finally, the negligible amount of disturbance within the proposed project site will be short-term, occurring only during project implementation. In the long-term, the proposed action will restore the stream channels of Knownothing and Methodist Creeks to a more natural condition, which will also enhance riparian vegetation thereby increasing preferred habitat for aquatic and riparian associate species. Enhancing these streams will meet Forest Plan Aquatic Conservation Strategy Objectives by aiding the recovery of fish habitat, riparian habitat, and water quality (6-46).

Cumulative Effects

Mining within the watersheds is minimal and limited to small surface disturbances. Within the Knownothing Watershed, the Discovery Day hard rock mine could implement a Plan of Operations, however, it would include management to avoid impacts to listed wildlife species. No other projects are proposing ground disturbing activities in the foreseeable future within this analysis area. Therefore, the addition of this project to the ongoing activities within the watershed (mining, fuels reduction, and stream restoration) will not combine to result in adverse cumulative effects. Therefore, restoration activities will not produce adverse cumulative effects to TEP wildlife species due to the small size for the project and specified PDFs and BMPs (see South Fork Tributary Habitat Enhancement Project EA) which will mitigate potential impacts of the project.

Compliance with law, regulation, policy, and the Forest Plan

The South Fork Tributary Habitat Enhancement Project complies with Forest Service Policy (FSM 2670), and Klamath National Forest LRMP Standards and Guidelines for TEP species.

Forest Plan

The Klamath National Forest is operating in full compliance with the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the northern spotted owl and the Northwest Forest Plan ROD was incorporated into the Forest's Land and Resource Management Plan (Forest Plan) (USDA FS 1994, as amended). The Forest Plan adopts the ROD as the Federal contribution to the recovery of the northern spotted owl.

2011 Northern Spotted Owl Recovery Plan

On June 28, 2011, the FWS released the final Revised Northern Spotted Owl Recovery Plan (USDI FWS 2011). This 2011 revised edition replaced wholly the 2008 version. The 2011 plan describes recovery objectives or goals, primary recovery criteria, implementation, and recovery actions. The proposed project is consistent with the objectives of Recovery Action 32 because it would have no negative effect on suitable northern spotted owl habitat and is therefore in compliance with the Recovery Plan.

Critical Habitat

Critical Habitat for northern spotted owl was designated on January 15, 1992 (USDI FWS 1992) and was revised August 13, 2008, becoming effective on September 12, 2008 and again on December 4, 2012 (USDI FWS 2008, 2012). The 2008 re-designation modified the boundaries of the Critical Habitat Unit. The habitat is designated using multiple Primary Constituent Elements, effects to which, equate to effects to Critical Habitat whether or not northern spotted owls are present in the area. Critical Habitat Units was used in determining effects to northern spotted owl.

Permitting

All required permits have been granted for this project. The project is covered under the programmatic US Army Corps of Engineers Clean Water Act section 404 Regional General Permit 12, which includes Section 7 consultation for the ESA. The project also has a Section 1600 Streambed Alteration Agreement with California Department of Fish and Wildlife, which includes timing restrictions for northern spotted owl.

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